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/Randall S. Jackson, Jr./

January 14, 2008

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Reg. No. 48,248

Date

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**  
*Ex parte Heiman*  
Appeal No. \_\_\_\_\_

Serial No.: 10/696,683  
Filed: October 29, 2003  
Group Art Unit: 1794  
Examiner: Jenna Leigh Johnson  
Appellant: Gary L. Heiman  
Title: ENHANCED SURFACE GEOMETRY SHEETING  
Attorney Docket: STAN-31  
Conf. No.: 5261

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Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

January 14, 2008

Dear Sir or Madam:

**APPEAL BRIEF**

This Appeal Brief is submitted in response to the Notice of Panel Decision from Pre-Appeal Brief Review mailed on November 13, 2007 insofar as the Pre-Appeal Panel alleges that there is at least one actual issue for appeal.

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**I.      Real Party in Interest**

The real party in interest is Standard Textile Co., Inc., a corporation of the State of Alabama, which is the Assignee of the present invention.

**II. Related Appeals and Interferences**

With the possible exception of the prior Pre-Appeal Brief Request for Review in this application, there are no related appeals or interferences known to the Appellant or the Appellants' legal representative that will directly affect, or be directly affected by, or have a bearing on the decision of the Board in the present appeal.

### **III. Status of Claims**

Claims 1, 3, 5-8, 13, 14, 16, 33, and 36-40 are presently pending, with claims 5-8 and 13 withdrawn from consideration. Claims 1, 3, 14, 16, 33, and 36-40 stand rejected and are subject to this appeal. A copy of the presently pending claims is included herein in the Claims Appendix.

**IV. Status of Amendments**

No amendments were made to the claims after the Final Official Action of June 15, 2007.

**V. Summary of Claimed Subject Matter**

Claims 1 and 33 are independent claims and claims 36 and 37 are dependent claims (there are other dependent claims as well). For the purposes of this appeal, focus will be on independent claims 1 and 33 with specific mention of dependent claims 36 and 37 where it is deemed necessary.

**Independent Claim 1**

Appellant's independent claim 1 is directed to a woven fabric sheeting (10, 30).

*See paragraphs [0017]-[0018] and Figures 1 and 2. The woven fabric sheeting (10, 30) has a plurality of warp yarns (32) and a plurality of filling yarns (34). The warp yarns (32) and the filling yarns (34) are woven together in a weave pattern which includes a plurality of warp yarn floats (36a,b,c,d) repeating along substantially the length of respective ones of the warp yarns in an x/y float pattern, wherein each of x and y are whole numbers greater than zero (0), x is at least two (2), and x is greater than y. See paragraph [0018] and Figure 2. At least one of the filling yarns (34) is a synthetic multifilament yarn and at least one of the warp yarns (32) is a spun yarn of natural fibers. See paragraph [0018].*

**Independent Claim 33**

Appellant's independent claim 33 is directed to a woven fabric sheeting (10, 30).

*See paragraphs [0017]-[0018] and Figures 1 and 2. The woven fabric sheeting (10, 30) has a plurality of warp yarns (32) and a plurality of filling yarns (34). The warp yarns (32) and the filling yarns (34) are woven together in a weave pattern which includes a plurality of warp yarn floats (36a,b,c,d) repeating along substantially the length of respective ones of the warp yarns (42) in a 2/1 float pattern. See paragraph [0018] and Figure 2. At least one of the filling yarns*

(34) is a synthetic multifilament yarn and at least one of the warp yarns (32) is a spun yarn of natural fibers. *See* paragraph [0018].

**Dependent Claim 36**

Appellant's claim 36 depends from claim 1 and further defines x as equal to 3 and y as equal to 1. *See* paragraph [0011].

**Dependent Claim 37**

Appellant's claim 37 also depends from claim 1 and further defines x as equal to 4 and y as equal to 1. *See* paragraph [0011].

**VI. Ground(s) of Rejection to be Reviewed on Appeal**

1. The rejection of claims 1, 3, 14, 16, 33, 35, and 38-40 under 35 U.S.C. 102(b) as allegedly anticipated by Love, III, et al. U.S. Patent Application Publication No. 2004/0229538 ("Love").

2. The rejection of claims 36 and 37 under 35 U.S.C. 103(a) as allegedly unpatentable over Love.

3. The rejection of claims 1, 3, 14, 16, 33, and 35-40 under 35 U.S.C. 103(a) as allegedly unpatentable over Collier U.S. Patent No. 5,487,936 ("Collier") in view of Lovingood U.S. Patent Application Publication No. 2003/0190853 ("Lovingood").

4. The rejection of claims 1, 3, 14, 16, 33, and 35-40 under 35 U.S.C. 103(a) as allegedly unpatentable over Heiman U.S. Patent No. 5,495,874 ("Heiman") in view of Fairchild's Dictionary of Textiles (Tortora, Phyllis. 7<sup>th</sup> Edition. Fairchild Publications, New York. 2003. p.596)(“the Fairchild dictionary”).

5. The rejection of claims 1, 3, 14, 16, 33, and 35-37 on the ground of nonstatutory obviousness-type double patenting as allegedly unpatentable over claims 1-21 of Heiman in view of the Fairchild dictionary.

## **VII. Argument**

### **The Cited Art Neither Discloses nor Renders Obvious the Claimed Invention**

#### **1. Overview**

This appeal is taken from the Final Official Action of June 15, 2007 ("Final Official Action").

Appellant's invention is a woven fabric for use as a bed sheet. As seen from the claims, the woven fabric sheeting construction includes warp yarn floats which repeat along substantially the length of respective warp yarns in a defined float pattern (*e.g.*, 2x1, 3x1, or 4x1 float patterns, not a plain weave pattern). The fabric sheeting includes a synthetic multifilament yarn in the filling to provide a woven fabric sheeting with improved levels of comfort and durability. The construction of the woven fabric brings a greater proportion of the floated yarns (*i.e.*, the floated warp yarn) to the surface of the sheeting that tends to increase surface tactile comfort. Thus, the floated warp yarns, of which at least one is a spun yarn of natural fibers, may be said to be comfort yarns. At the same time, the synthetic multifilament fill yarn enhances the durability of the sheeting. In addition, the construction provides differentially elevated and/or depressed areas or designs on the surface of the sheeting, which may create pathways or channels for increased airflow through and/or across the sheeting. This feature not only enhances comfort, but also is believed to have a positive impact on skin care. *See e.g.*, paragraphs [0007], [0009], [0019], and [0020].

The claims presently stand rejected either as anticipated or for obviousness, including obviousness-type double patenting. For present purposes, focus will be on the independent claims (with specific mention of dependent claims where it is deemed necessary). As explained below, the rejections of the independent claims should fall. As a matter of law, the rejections of the dependent claims necessarily must fall. *See, e.g., Hartness Int'l, Inc. v.*

*Simplimatic Eng'g Co.*, 819 F.2d 1100, 1108, 2 USPQ2d 1826, 1831 (Fed. Cir. 1987) (dependent claims patentable if independent claims are patentable over the art).

For present purposes, independent claim 33 can be viewed as a claim depending from claim 1, wherein  $x = 2$  and  $y = 1$ .<sup>1</sup> Accordingly, the remarks herein will focus on independent claim 1 (with specific mention of claim 33 where thought to be useful), but it should be readily apparent the same applies to claim 33.

As it is submitted that the rejections of the independent claims are in error and should be reversed, the rejections of the dependent claims are also submitted to be in error and thus moot. Rather, for present purposes, it is sufficient to establish that the cited art fails to teach or render obvious a woven fabric sheeting construction of warp yarn floats that repeat along substantially the length of respective warp yarns in a defined float pattern (e.g., 2x1, 3x1, or 4x1 float patterns), at least one synthetic multifilament yarn in the filling, and at least one warp yarn being a spun yarn of natural fibers.

Briefly, Examiner is of the view that claims 1 and 33 are anticipated by Love. Love discloses a woven fabric of warp and weft yarns that include synthetic fibers or blends of synthetic and natural fibers. Therefore, Love fails to disclose Appellant's woven fabric wherein as least one warp yarn is spun solely of natural fibers, and thus does not anticipate the claimed invention. Accordingly, the anticipation rejection is clearly in error and should be reversed.

Examiner rejects dependent claims 36 and 37 as allegedly obvious over Love. Claims 36 and 37 depend from claim 1 and define the float pattern as a 3x1 and 4x1 pattern, respectively. As mentioned above, Love does not disclose a woven fabric having a warp yarn

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<sup>1</sup> Claim 33 is presented in independent form as it represents a particularly advantageous embodiment of the invention as disclosed and so it is believed appropriate to leave it in independent form rather than making it a dependent claim.

that is spun solely of natural fibers. Further, as acknowledged by Examiner, Love does not disclose a woven fabric having a float pattern of 3x1 or 4x1. Thus, to arrive at Appellant's woven fabric, Love's fabric needs to wholly replace its synthetic fiber containing yarns with natural fiber yarns as well as completely alter its weave pattern. Such modifications are not only nonobvious but would destroy the intended purpose of Love and/or change the principle of operation of the invention as further explored below. *In re Gordon*, 733 F.3d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984) (a reference teaches away from proposed modifications that render the disclosed invention inoperable for its intended purpose); *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious). As such, the obviousness rejection is clearly erroneous and should be reversed.

Examiner also rejects claims 1 and 33 as allegedly obvious over Collier in view of Lovingood. As Examiner acknowledges, Collier is directed to a woven fabric having a plain weave, *i.e.*, an  $x = y$  float pattern, which does not disclose the presently claimed invention, in particular, a float pattern where  $x > y$ . Examiner resorts to Lovingood for its  $x > y$  float pattern, which Collier lacks, and asserts that one skilled in the art would modify Collier in view of Lovingood. Examiner is attempting, improperly, to combine apples ( $x > y$ ) with oranges ( $x = y$ ). Indeed, Lovingood expressly states that its fabric and the fabric of Collier are "substantially different". *See* Lovingood paragraph [0008]. Also, combining such references actually destroys the intended purpose of Collier, which is to create a fabric having a shot silk visual effect that requires that the fabric have a simple, *i.e.*,  $x = y$ , weave. The shot silk effect of Collier is impossible using the  $x > y$  weave of Lovingood, thus Collier teaches away from the

modification. This is impermissible. And, even assuming that the references are capable of being combined, the combination, at best, yields a ground fabric having an  $x = y$  float pattern with the  $x > y$  float pattern introduced at intervals therein. The presently claimed invention has the  $x > y$  float pattern repeating along substantially the length of the warp yarns. For at least these reasons, the obviousness rejection is in error and should be reversed.

Examiner further argues that claims 1 and 33 are obvious over Heiman in view of Fairchild dictionary (with these references also being asserted as the basis for an obviousness-type double patenting rejection). Heiman discloses a fabric having a plain weave, *i.e.*, a float pattern where  $x = y$ . Thus, Examiner acknowledges that Heiman fails to disclose the presently claimed weave pattern, *i.e.*,  $x > y$  float pattern. Examiner turns to the generic mention in the Fairchild Dictionary that twill fabrics have an  $x > y$  float pattern and are commonly known to be strong durable fabrics. Examiner suggests that Heiman can be modified by the disclosure in Fairchild dictionary to produce the presently claimed invention. Again, Examiner is attempting, improperly, to combine apples ( $x > y$ ) with oranges ( $x = y$ ). Indeed, changing the weave of the fabric in Heiman from a simple ( $x = y$ ) weave to a twill ( $x > y$ ) weave is more than a simple modification, it is creating a wholly new fabric that is quite different from the specifically disclosed fabric of Heiman. Thus, the obviousness rejection is in error and should be reversed.

Regarding the obviousness-type double patenting rejection, Examiner has simply relabeled the obviousness rejection above as an obviousness-type double patenting rejection. The analysis employed for an obviousness-type double patenting rejection parallels that of a section 103 obviousness determination. *In re Braat*, 937 F.2d 589, 592 19 USPQ2d 1289 (Fed. Cir. 1991); *In re Longi*, 759 F.2d 887, 892 n. 4, 225 USPQ 645, 648 n. 4 (Fed. Cir. 1985). Thus, the same arguments applied to the obviousness rejection above apply here with equal force. In

addition, even assuming that the claims of the Heiman patent are not limited to a plain 1x1 weave, the Heiman patent simply discloses a broad genus whereas the present patent discloses a specific species. An earlier disclosure of a genus does not make unpatentable a species from that genus. *Eli Lilly v. Board of Regents of the University of Washington*, 334 F.3d 1264, 1270 67 USPQ2d 1161 (Fed. Cir. 2003). For at least these reasons, the rejection for obviousness-type double patenting is clearly in error and should be reversed.

Each of the above rejections is now fully discussed in order below.

## **2. The Cited Art Does Not Anticipate the Claimed Invention**

### **Independent claims 1 and 33 improperly rejected under 35 U.S.C. 102(b) as anticipated by Love**

It is well established that "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Claims 1 and 33 call for "at least one of the warp yarns being a spun yarn of natural fibers" [underlining for emphasis]. In other words, that warp yarn is made solely of natural fibers. Love fails to disclose at least that feature and thus the anticipation rejection is in error and should be reversed.

Specifically, Love is directed to woven stretch fabrics that include at least about 50% or greater of a synthetic fiber component, in order that the yarn will retain its structural conformation after a heat setting process. The fabrics can be made from yarns containing synthetic fibers, blends of two or more types of synthetic fibers, or blends of synthetic fibers and natural fibers; and the yarns can be made of spun or filament yarns. *See abstract, paragraph [0014], and the Examples.* There is no teaching in Love of a woven fabric having a spun yarn

(let alone a spun warp yarn) made solely of natural fibers. Rather, Love, at best, discloses a spun yarn that is a blend of natural and synthetic fibers. Claims 1 and 33 recite that at least one warp yarn is a spun yarn of natural fibers. Thus, Love cannot anticipate the claimed invention and the rejections based thereon must be reversed.

### **3. The Cited Art Does Not Render Obvious the Claimed Invention**

A *prima facie* showing of obviousness is satisfied if there is an apparent reason to combine the prior art references flowing from either the references, the knowledge of one of ordinary skill in the art, or from the nature of the problem to be solved, and the results are expected. *KSR Int'l. Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007); *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). In the instant case, Appellants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness for the reasons that follow.

#### **a. Dependent claims 36 and 37 improperly rejected under 35 U.S.C.**

##### **§103(a) over Love**

Claims 36 and 37, which are species of the genus covered in claim 1, call for woven fabrics with 3x1 and 4x1 float patterns, respectively, and are rejected as allegedly obvious over Love. Examiner already acknowledges that Love fails to disclose a woven fabric having 3x1 or 4x1 float patterns. *See* Final Official Action, paragraph 8 referring to Final Office Action of November 21, 2006, paragraph 13. And, as already discussed above, Love fails to disclose a woven fabric having a warp yarn that is spun solely of natural fibers. Rather, at best, Love teaches using a yarn that is a blend of synthetic and natural fibers.

Accordingly, to arrive at Appellant's woven fabric, Love's fabric needs to wholly replace synthetic fiber containing yarns with natural fiber yarns as well as completely alter its weave pattern. Such modifications are not only nonobvious but would destroy the intended

purpose of Love and/or change the principle of operation of the invention. *In re Gordon*, 733 F.3d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984); *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Indeed, the apparent intended purpose of Love is to create a woven stretchable fabric using non-stretch yarns. *See* abstract and paragraph [0001]. To make that fabric stretchable, it must be woven with yarns containing synthetic fibers. The synthetic fibers are required because the stretchable nature of the fabric is imparted by heat setting the synthetic fibers in the yarns to maintain the yarn crimp obtained during the stretching and heat setting process. *See* e.g. paragraphs [0016] and [0046]. A yarn comprised solely of natural fibers will not maintain its crimp using this heat setting process, thus, using only natural fibers for one or more of the warp yarns would change the principle of operation of the Lovingood fabric and/or the fabric sought by Lovingood would not be obtained. Additionally, without aide of hindsight reconstruction, which is fatal to a 103 rejection, there simply is nothing in Love that would lead one to increase the float pattern of the warp yarns to 3x1 or 4x1.

In view of the above, Love fails to make obvious Appellant's woven fabric and, in fact, actually teaches away from the necessary modifications to make the woven fabric. Thus, the obviousness rejection is clearly in error and should be reversed.

b. **Independent claims 1 and 33 improperly rejected under 35 U.S.C. §103(a) over Collier in view of Lovingood**

Examiner acknowledges that Collier fails to teach using a 2x1, 3x1, or 4x1 twill structure, which are species of the genus covered by claim 1. *See* Final Official Action, paragraph 9. Indeed, Collier is directed to coloring woven fabric to exhibit a shot silk visual effect that requires an  $x = y$  weave, e.g., a 1x1 plain square weave, in combination with a substantially even density of the warp and weft threads. In addition, ground weaves other than

the 1x1 plain square weave can be used, for example, a 2x2 twill weave, such that each thread in these constructions shows equally and the cloth would present the same appearance on each side. See col. 4, lines 11-14; and Figs 1 and 2.

In view of a lack of teaching in Collier, Examiner resorts to Lovingood which has an  $x > y$  float pattern. In doing so, Examiner asserts that it "would have been obvious to one having ordinary skill in the art to use a 2x1 or 3x1 twill structure as disclosed by Lovingood, to produce a different visual effect in the fabric of Collier since Collier discloses that different weave patterns can be used to create different designs in the fabric." Examiner further alleges that "it would have been obvious to one having ordinary skill in the art to choose a 2x1, 3x1, or 4x1 twill weave pattern instead of a 2x2 twill weave pattern to modify the appearance and texture of the fabric." See Final Official Action, paragraph 9. Appellant respectfully disagrees for the reasons that follow.

Appellant's woven fabric sheeting construction includes spun natural fiber warp yarns with floats that repeat along substantially the length of respective warp yarns in a defined float pattern (e.g., 2x1, 3x1, or 4x1 float patterns) and a synthetic multifilament fill yarn. This construction provides a woven fabric sheeting with improved levels of comfort imparted by the float pattern of the natural fiber warp yarns and durability imparted by the multifilament synthetic fiber fill yarn(s).

Collier, on the other hand, is directed merely to the coloring of woven fabric, such fabric having specific ground weave constructions, e.g., 1x1 plain square weave or 2x2 twill weave, to show equally so that the cloth presents the same appearance, when dyed, on each side. In stark contrast, the weave of Appellant's warp yarn float expressly avoids an  $x = y$  float pattern that Collier finds necessary to bring out the color evenly to yield the shot silk effect. Despite that

clear teaching. Examiner, in a vain effort to support combining the references to replace the even float patterns of Collier, maintains a heavy reliance on the Collier statement that "the cloth may be patterned at intervals by the use of a jacquard or dobby to introduce variations from this ground." *See* col. 4, lines 15-17. Because that generic sentence is nothing more than an indication that one may, if desired, incorporate into the fabric, at intervals, other various unspecified patterns besides the 1x1 plain square weave or 2x2 twill weave, Examiner resorts to the Lovingood reference in an effort to support a wholesale substitution of an  $x > y$  twill weave pattern for the  $x = y$  plain weave pattern of Collier. Examiner here is attempting, improperly, to combine apples ( $x > y$ ) with oranges ( $x = y$ ). Indeed, the conclusions drawn by Examiner are an overreaching of the actual teachings of the references.

Combining Lovingood with Collier is clearly inappropriate. In the first instance, Lovingood clearly explains that its fabric product and the woven fabric product of Collier are "substantially different". *See* paragraph [0008]. As such, there is a fundamental flaw in concluding that there is an apparent reason to combine references when one of these on its face states that its product is substantially different from that of the other. Further, Lovingood specifically discloses a chambray, or woven, fabric that uses only cellulosic yarns, i.e., natural yarns, for the filling. *See, e.g.*, paragraphs [0007], [0013], [0016], and [0025], Examples 1-6, and Figs. 1 and 2 thereof. By contrast, Appellant's claims call for at least one of the filling yarns to be a synthetic multifilament yarn. If one were to engraft Lovingood into Collier, it is submitted that they would also engraft the natural filling yarns, thus moving away from Appellant's invention.

In addition, Collier actually teaches away from modifying the  $x = y$  plain weave with Lovingood's  $x > y$  weave because this modification would destroy the intended purpose of

Collier. See e.g. *In re Gordon*, 733 F.3d at 902 (proposed modification that renders the invention inoperable for its intended purpose teaches away from the proposed modification). The intended purpose of Collier is to produce the shot silk visual effect. This affect can only be obtained in fabrics having an  $x = y$  plain weave. Modifying Collier to incorporate the  $x > y$  weave of Lovingood would destroy the shot silk visual effect and thus, the intended purpose of Collier. Therefore, based on this teaching away, one skilled in the art would not combine the Collier and Lovingood references to arrive at the presently claimed invention.

The foregoing notwithstanding, taking the Lovingood 2x1 twill weave pattern into the woven fabric of Collier would still not result in the claimed invention. In that regard, Examiner relies on Collier to submit that the cloth may be patterned, at intervals, to introduce variations from the ground and concludes that the Lovingood 2x1 pattern could be one of those variations. Even if that were done, the result would be the introduction of the  $x > y$  pattern of Lovingood at some intervals into the  $x = y$  weave of the Collier ground cloth. The result would not be the herein claimed warp float patterns that repeat along substantially the length of any warp yarn. Rather the warp float pattern would change at sporadic, and ill-defined "intervals", therealong.

For the reasons above, it is respectfully submitted that Collier and Lovingood cannot be combined, and even if combined stills fails to render obvious the invention of Appellant's independent claims 1 and 33, nor any of the dependent claims. Thus, these rejections are clearly in error and should also be reversed.

c. Independent claims 1 and 33 improperly rejected under 35 U.S.C. §103(a) over Heiman in view of Fairchild dictionary

With respect to Heiman, the inventor's own earlier patent, and the Fairchild dictionary rejections, Examiner recognizes that Heiman, like Collier, fails to teach a weave pattern using warp yarn floats where  $x > y$ . Indeed, Heiman expressly discloses a plain ( $x = y$ ) weave. Heiman's construction works and there is or was no need or basis to look at altering the disclosure. Nevertheless, without reason and, indeed as if at random, Examiner turns to the Fairchild dictionary for its generic mention that twill weaves are commonly known woven fabric structures used to produce strong, durable fabrics with the smallest twill being a 2x1 twill. In combining the references, Examiner asserts that it "would have been within the level of ordinary skill in the art to choose the fabric design, i.e., 2x1, 3x1, or 4x1 twill pattern based on the desired appearance and end use of the fabric". *See* Final Official Action, paragraph 10. Appellants respectfully submit that Examiner effectively mischaracterizes the scope of the disclosure of Heiman, and at the same time, places undue weight on the Fairchild dictionary.

Combining Heiman with the disclosure in the Fairchild dictionary improperly creates a wholly new fabric that is not the fabric specifically disclosed in Heiman. As explained in Appellant's specification, Heiman teaches a woven fabric having a 1x1 plain weave construction ( $x = y = 1$ ) that combines the comfort features of cotton fabrics with the durability advantages of polyester fabrics. *See, e.g.*, abstract, col. 3, lines 51-65, and col. 4, lines 3-33. Appellant's claimed invention is an improvement over Heiman's earlier plain weave construction. The Fairchild dictionary is relied on for teaching fabrics having  $x > y$  weaves. Again, Examiner is combining, improperly, apples ( $x > y$  weaves) with oranges ( $x = y$  weaves). If Heiman were woven using the  $x > y$  weave of the Fairchild dictionary, a completely new fabric would be

created, not just a mere modification of the Heiman fabric as disclosed therein. Creating a wholly new fabric is much more than an obvious modification and is simply not a proper basis for an obviousness rejection.

In addition, there is not even a single mention of float patterns, let alone warp float patterns, or of "twill" anywhere in Heiman. Thus, there is nothing in Heiman that suggests it is applicable to weave constructions ( $x > y$ ) of the type involved here. Nor does the mere mention in the Fairchild dictionary of a 2x1 twill weave add anything of value, for that has nothing to do with the plain weave construction of Heiman. A patent claim is not obvious merely because each of its elements was, independently, known in the prior art. *KSR Int'l*, 127 S.Ct. at 1741. Here, Examiner is taking two independently known elements and, with no sound reasoning, inappropriately combining them into an obviousness rejection.

And, although there is a general mention of a 2x1 twill weave in the Fairchild dictionary as indicated by Examiner, Examiner fails to mention that the same twill weave definition clearly states that "one of the most popular weaves . . . [is] even sided twill, two up, two down [2x2]". Thus, even assuming one might be seeking to modify Heiman, how can it be that one would choose a 2x1 twill weave (or 3x1 or 4x1 for that matter) over the more common 2x2 twill weave for modifying the plain weave of Heiman? The answer is clear: one would not but for the knowledge gleaned from Appellant's own disclosure. Such hindsight reconstruction is impermissible and fatal to a §103 rejection. See *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984) ("It is difficult but necessary that the decisionmaker forget what he or she has been taught . . . about the claimed invention and cast the mind back to the time the invention was made (often as here many years), to occupy the mind of one skilled in the art who is presented only with the

references, and who is normally guided by the then-accepted wisdom in the art."); MPEP §2145.

In view of the above, the obviousness rejection over Heiman and the Fairchild dictionary is submitted to be in error and should be reversed.

#### **4. The Obviousness-Type Double Patenting Rejections are in Error**

Concerning the double patenting rejection, the Examiner again generally regurgitates the obviousness arguments and re-labels them as an obviousness-type double patenting rejection. This type of rejection is "analogous to [a failure to meet] the nonobviousness requirement of 35 U.S.C. 103". *In re Braithwaite*, 379 F.2d at 600 n. 4. The analysis employed for an obviousness-type double patenting rejection parallels that of a section 103 obviousness determination. *In re Braat*, 937 F.2d at 592; *In re Longi*, 759 F.2d at 892 n. 4. To that end, the Examiner's obviousness-type double patenting rejection is equally as factually flawed as Examiner's obvious rejection for the reasons stated above. Thus, it is submitted that Appellant's woven fabric sheeting, with its plurality of warp yarn floats repeating along substantially the length of respective ones of the warp yarns in the claimed  $x > y$  float pattern, is not an obvious variation of any of claims 1-21 of the Heiman patent. More specifically, as explained above, the disclosure of Heiman involves a 1x1 plain weave ( $x = y = 1$ ), and thus, does not teach the  $x > y$  float pattern as presently claimed, nor would it have been obvious to modify Heiman to achieve the claimed invention. For purposes of the double patenting rejection, Examiner must focus on the claims of Heiman, but it is submitted that the result is no different.

Even assuming for sake of argument that the claims of Heiman are not limited to a 1x1 plain weave, it is submitted that an analogy can be by reference to a genus-species situation. In that context, the claims of Heiman might be viewed as a genus (any float pattern), whereas Appellant's claimed woven fabric sheeting might be viewed as a subgenus or species

(specific relation of float pattern with  $x > y$ ). Where a later claim is directed to a species, and the Examiner is relying on an earlier disclosure (here, claims) to a genus, Examiner still must show that it would have been obvious to modify the genus, i.e., Heiman's woven fabric sheeting, to make the subgenus or species, i.e., Appellant's woven fabric sheeting with its specific  $x > y$  float pattern construction. *See, e.g., Eli Lilly*, 334 F.3d at 1270 (explaining that earlier disclosure of a genus does not necessarily prevent patenting a species member of the genus). The mere fact that a reference is found that relates to a float pattern that matches the species but without regard to other aspects of the invention, does not itself show that the modification is obvious. *See, e.g., In re Baird*, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994). If the mere mention in the art of such elements were sufficient, nothing could be patentable once the genus is known. That is clearly not the law.

In view of the above, Appellant submits that the obviousness-type double patenting rejection over Heiman and the Fairchild dictionary is also clearly in error and should be reversed.

### Conclusion

For at least the reasons discussed above, Appellant respectfully submits that the rejections of claims 1, 3, 14, 16, 33, and 36-40 are in error and should be reversed.

Respectfully submitted,  
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**VIII. Claims Appendix**

1. (Previously Presented) A woven fabric sheeting, comprising:
  - a plurality of warp yarns; and
  - a plurality of filling yarns,

the warp yarns and the filling yarns being woven together in a weave pattern which includes a plurality of warp yarn floats repeating along substantially the length of respective ones of the warp yarns in an  $x/y$  float pattern, wherein each of  $x$  and  $y$  are whole numbers greater than zero (0),  $x$  is at least two (2), and  $x$  is greater than  $y$ ,

at least one of the filling yarns being a synthetic multifilament yarn and at least one of the warp yarns being a spun yarn of natural fibers.

2. Cancelled.

3. (Previously presented) The sheeting of claim 1 wherein the synthetic multifilament yarn is formed of polyester.

4. Cancelled.

5. (Withdrawn) The sheeting of claim 1 wherein at least one of the filling yarns is a spun yarn.

6. (Withdrawn and Previously presented) The sheeting of claim 5 wherein the spun filling yarn includes natural fibers.

7. (Withdrawn and Previously presented) The sheeting of claim 6 wherein the spun filling yarn further includes synthetic staple fibers.

8. (Withdrawn and Previously presented) The sheeting of claim 5 wherein the spun filling yarn includes synthetic staple fibers.

9-12. Cancelled.

13. (Withdrawn and Previously presented) The sheeting of claim 1 wherein another one of the warp yarns is a synthetic filament yarn.

14. (Original) The sheeting of claim 1 wherein the warp yarns and the filling yarns are woven together in a weave pattern selected from the group consisting of a twill weave, a satin weave, a gabardine weave, a herringbone weave, and combinations thereof.

15. Cancelled.

16. (Previously presented) The sheeting of claim 14 wherein the weave pattern is a twill weave.

17-32. Cancelled.

33. (Previously Presented) A woven fabric sheeting, comprising:  
a plurality of warp yarns; and  
a plurality of filling yarns,  
the warp yarns and the filling yarns being woven together in a weave pattern which includes a plurality of warp yarn floats repeating along substantially the length of respective ones of the warp yarns in a 2/1 float pattern,  
at least one of the filling yarns being a synthetic multifilament yarn and at least one of the warp yarns being a spun yarn of natural fibers.

34-35. Cancelled.

36. (Previously presented) The sheeting of claim 1 wherein  $x = 3$  and  $y = 1$ .

37. (Previously presented) The sheeting of claim 1 wherein  $x = 4$  and  $y = 1$ .

38. (Previously presented) The sheeting of claim 1 wherein each of the filling yarns is a synthetic multifilament yarn and each of the warp yarns is a spun yarn of natural fibers.

39. (Previously presented) The sheeting of claim 1 wherein each of the filling yarns is a synthetic multifilament yarn.

40. (Previously presented) The sheeting of claim 1 wherein each of the warp yarns is a spun yarn of natural fibers.

**IX. Evidence Appendix**

(None)

**X.      Related Proceedings Appendix**

(None)